# arm

# Enabling CXL within the Data Center with Arm Solutions

Market Dynamics - Disaggregation of compute and memory



Inefficiency of DRAM memory utilization



Memory channel bandwidth per core declining



Reduce Total Cost of Ownership (TCO)



PCIe speeds equating single channel DRAM bandwidth



Workloads becoming more and more divergent

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# CXL Product Enablement

#### Arm products for the Data Center





- V Series
- N Series
- E Series

- Scalable Coherent Mesh Fabric (CMN)
- NI NoC Network onchip non-coherent fabric
- GIC
- MMU



- V1 Reference Design
- N2 Reference Design

## Arm is enabling Rapid Pace of Innovation with CXL



CXL: Compute Express Link

#### Arm Neoverse CPUs along with CMN enable CXL

## Arm is Driving Technology Leadership Across Standards

AMBA CHI, UCIe and CXL deliver leadership die-to-die and chip-to-chip fabric solutions



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# CXL Product Enablement – Device Perspective



## Solutions for Disaggregation of Compute and Memory

#### **CXL Memory Expansion**



expansion cards in the rack and separate racks

#### **CXL** Memory Pooling



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## **CXL Memory Pooling Solution**



#### Arm is in a unique position to provide CXL memory pooling solution

- Lowest latency Coherent Mesh
  Network (CMN) product based on
  collaboration with hyperscalers
- Arm CPUs for Fabric and SoC management
- Provide end-end CXL optimized solutions with Host and Device side knowledge

## Advantages on a partnership with Arm on CXL

#### Technology currently in development cycle

- Arm know-how in coherent device technology concepts
- Arm has front-row seats to requirements via hyperscalers and device partners
- Arm has demonstrated ecosystem leadership in many segments

#### **Ecosystem Enablement**

- Arm has a presence in all major consortia giving unprecedent view of industry
- Arm is well versed in standardizing ecosystems







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